Extending the Reach of Adult Education Using the Who's Online Where (WOW) Index

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Executive Summary

No previous technology for literacy has been adopted by so many, in so many different places, in such a short period, and with such profound consequences. The sudden appearance of a new technology for literacy as powerful as the Internet has required us to look at the issue of new literacy with fresh lenses (Lesgold and Welch-Ross 2012, 163).

The Internet has changed the way we do business, as well as the way we deliver education. This report and the WOW Index package (report, appendices, and fillable worksheets) take a closer look at how the Internet can impact our national need to reach more learners who need adult education programs. The Index itself is designed to be a resource for state directors and other administrators. It takes into consideration several factors related to population demographics and broadband Internet access predictors, ultimately providing leaders with county level information about where the eligible adult population lives and how likely they are to be able to conveniently access the Internet. The goal of the WOW Index is to give state directors and other leaders a way to determine where they should offer face-to-face, hybrid or fully online adult education programs. The Index is a work in progress and is expected to be adjusted based on usage.

There are several sections to the report. It begins with an overview of the need for extending adult education programming to the many eligible adults currently not being served, and using it to supplement programming for those already in classes. A discussion about online learning and what we know about Internet access for this population follows. The WOW Index and its elements are introduced later in the paper. Appendices provide: examples of how four states are using technology in their programming, a checklist for program designers, references, and resources. Accompanying the report and appendices is a fillable worksheet file.

Included in the total WOW Index package is a case study for the sample state of Ohio which consists of a worksheet and a series of maps that give a visual representation of the data gathered for making decisions about delivery-mode options.

Overview and Need

The number of adults who are at or below basic levels of literacy and numeracy presents providers of adult education programs with a significant set of challenges. According to the recent Program for the International Assessment of Adult Competencies (PIAAC) Survey of Adult Skills conducted by the Organization for Economic Co-operation and Development (OECD Skills 2013), and the related report, Time for the U.S. to Reskill?: What the Survey of Adult Skills Says (OECD Time 2013), about 36 million adults are considered "low skilled" (having below Level 2 literacy and numeracy skills on the PIAAC Survey) and would be eligible for Adult Basic Education (ABE), Adult Secondary Education (ASE) and/or English as a Second Language (ESL) programs. In addition, the report estimates that approximately 3 million adults with low skills would like to participate in programs, but are not able to do so due to various barriers. The first challenge is that in reporting year 2012-2013, only 1.7 million youth and adults were enrolled in federally-funded, state-administered adult education programs (OCTAE, National Reporting System).

In addition to the need to expand the reach of these programs, there is a second challenge of adults not being able to commit the amount of time necessary to make significant gains once they enroll. This challenge and the implications for programming are well-documented in a recent study by the National Research Council (Lesgold and Welch-Ross 2012). The report found that adults engaged in ABE, ASE and/or ESL attend, on average, approximately 100 hours of instruction during a program year, and only about one-third make significant gains during that time. Learning to read, however, is a complex skill that may take thousands of hours of practice to master, as does learning math or other content. Work schedules, financial needs, family responsibilities, poor health, transportation barriers, and other life situations will continue to present barriers to these adults' participation in face-to-face classes.

The WOW project was designed to assist with two of the challenges facing adult education programs: 1) how to significantly expand the reach of programs to serve more learners, and 2) how to increase the amount of instruction through online learning such that learners' progress can be accelerated. The highlight of the project is an index designed to help adult education state directors determine best locations to invest resources for delivery of online instructional materials.

Online Learning – What We Know

One way to address both the scaling and time commitment challenges described above is to provide online learning options. For the purposes of this paper, online learning is defined as "activities for which Web-based content and Internet connection and interactivity are integral to the experience for at least a portion of the engaged time" (National Institute for Literacy 2008, 20). The delivery of online content today is not limited to a dedicated desktop computer; online content can also be accessed via public access computers, laptops, tablets, smartphones and other mobile devices. The ultimate goal for online content is to be accessible via multiple devices and networks.

While not a complete solution, developing programs that include online instruction will allow for an extended reach of the programs, and will provide a convenience factor that allows learners to more effectively manage their education with other responsibilities. Online content can also provide

opportunities for meaningful supplemental practice and enrichment of developing skills, while simultaneously boosting adults' digital literacy skills.

The convenience factor is non-trivial. The 24/7 access to instructional content means that adult learners can make the programs work with their schedules instead of the other way around. More convenience may lead to more engagement.

A popular alternative to fully online courses and programs is a blended, or hybrid approach that includes both face-to-face and online learning strategies. There are several models currently being practiced in higher education, teacher professional development, and K-12 education. The amount of face-to-face time for critical dialogue may be reduced; but, it is re-conceptualized to be used for critical dialogue, review or expansion of the content, assessments that must be proctored, and/or pre-teaching of the next lesson. For example, Arizona has piloted a "flipped classroom" approach in which students are expected to work independently online for approximately 10 hours per week, and then meet once a week for two hours face-to-face with peers and an instructor. This model allows instructors to help students build their independent learning skills and address any misconceptions or issues during the face-to-face experience. The pilot has shown positive results, and Arizona is now starting to roll the program out statewide (see Appendix B for more information about this and other examples). Research has shown that a blended approach with postsecondary and continuing education students leads to more successful outcomes than face-to-face only, or online only instruction (U.S. Department of Education 2010, ix).

The report, *Investigating the Language and Literacy Skills Required for Independent Online Learning* (National Institute for Literacy 2008), reviewed evidence for adding online learning strategies to adult literacy and adult ESL programs. The report found that there are no distinct levels or thresholds for when a learner is ready for online learning, and that well-designed blended courses and programs that can provide quality online learning environments along with supports help these learners succeed. The report concludes "that it is the ***interaction*** among learners' skills, the online environments they encounter, and the supports available that determines those thresholds; and, that even [adult] learners with very low literacy or language proficiency have been successful with some online learning environments" (p. 34). Furthermore, the report found that online learning in and of itself fosters independent and self-directed learning, and boosts digital literacy skills.

In addition to providing scaling and convenience options, there are other reasons to expand the use of online instruction in adult education programs, including labor market, consumer, public service, and assessment trends. Former Federal Communications Commission chairman, Julius Genachowski, said recently that "over 80% of Fortune 500 companies post job openings exclusively online." Over half of today's jobs require technology skills, and nearly 80% of jobs in the next decade are projected to require digital skills" (Levere 2013). The Institute of Museum and Library Services' *Building Digital Communities* National Initiative (2012) reports that consumers with broadband access to the Internet at home can save over $7000 a year using online coupons and discounts. Government services from federal and state programs are increasingly relying on digital communication, online access, and automated deposits. Most high-stakes testing, including high school equivalency assessments and assessments for industry-recognized credentials, have computer-based or online components. Everyday skills such as checking

email, surfing the Web, searching for information, and checking credibility of claims will help prepare adults for further education, training, employment, and citizenship.

Costs: Face-to-Face and Online

As online programming is introduced into adult education programs, administrators will want to know if offering online options might cost more or less than face-to-face instruction. It is, therefore, helpful to decouple the costs calculated for *development* and *delivery* in the two modes.

Often many of the costs associated with face-to-face development are overlooked. For example, how does one accurately capture the costs of number of hours it took to develop the curriculum, build the lesson plans and design the lecture notes, presentation slides, etc., or the value of the numerous instructor or faculty meetings and approvals required before a course can be taught the first time? When scaling programs, face-to-face instruction will significantly increase personnel and physical costs. When considering online programs, content must either be developed or acquired, each having its own advantages and disadvantages. Developing content most often has a higher up-front cost, such as those associated with hiring instructional designers, reviewers, programmers and other web developers, and over time may or may not prove to be less expensive to maintain. Acquiring or licensing online content will likely include a cost per seat, annual licensing costs, maintenance, updates and upgrades. The Total Cost of Ownership (TCO) is laid out in a toolkit produced by the Consortium for School Networking (http://www.cosn.org/tco). Personnel costs for delivering online and hybrid courses can be minimized if courses are developed in a way that maximizes the online portion of the course and minimizes the need for live instructor interaction. For these reasons it's often difficult to calculate any significant difference in *development* costs between face-to-face and online instruction.

However, cost studies (Jung 2003; Robinson 2009) have reported that, when comparing the cost of face-to-face instruction to online delivery, the costs of *delivery* of the instruction over time decreases significantly with online instruction. Robinson (2009) looked at seven universities and compared the delivery of face-to-face instruction on those campuses with online delivery by a separate institutional unit. Keeping instructor costs the same (same number of instructors/faculty), the study concluded that the online unit required significantly less funding – slightly less than half – to deliver the same amount of instruction. The development and delivery of online content is often referred to as "develop once, deliver many."

Finally, in addition to saving money for the institution, online instruction can save money for the adult learners. Attending face-to-face classes includes a range of student costs, such as transportation and parking fees, lost wages, child-care costs, and so on. For many adults, these costs can prevent them from enrolling or persisting in classes. Being able to access courses online from home, work, the local library, or from one of the hundreds of American Job Centers (aka One Stops) can add to the convenience appeal.

The Question of Access – Who's Online?

There continues to be legitimate concern about the digital divide and how adult learners access the Internet. But, current research tells us that the divide is narrowing, and that many more adults have

access than even five years ago, largely due to availability and broader usage of mobile devices (Brenner and Rainie 2013). This section of the Index presents several data sets and trends that inform our understanding of the changing capacity of communities and households to support online learning. The section begins with the U.S. Census Bureau's July 2011 Current Population Survey (CPS) Computer and Internet Use Supplement to identify national household trends. Following that is a review of data collected and reported by the Pew Research Center's Internet and American Life Project, which tracks the issue closely in smaller fast response surveys, looking especially at trends and subgroup behaviors.

According to the CPS 2011, 75.6% of households nationally reported having a computer in the home and 71.1% of households had high speed Internet access in the home (File2013). This is a significant increase since the Bureau began asking about Internet access in 1997 (only 18% reported having high speed access that year). In 2011, Hispanic and Black minorities reported that 58.3% and 56.9%, respectively, had high speed Internet access in the home. While still a significant increase over time, these minorities continue to represent the lowest race/ethnicity groups with home access. It is not surprising to note that households with highly educated residents report higher rates of Internet use than those with residents whose educational attainment is less than high school completion. The CPS reports that only 37% of adults without a high school diploma use the Internet. In addition, 56.7% of individuals living in households earning less than $25,000 annually report having a computer in the home, and only 49.8% report having Internet access in the home. The CPS also developed a "connectivity continuum" ranging from no Internet use anywhere to Internet use both inside the home and elsewhere on multiple devices. In the "no connectivity" end of the continuum were 35.6% of households making less than $25,000 annually and 44.9% of individuals without a high school diploma. Only 3.0% of the total population access the Internet outside the home only and do not have a computer at home, and 15.9% do not access the Internet anywhere and do not have a computer at home.

When it comes to Internet use in general (either at home or some other location), Pew reports that the percentage of adults who are "online" has grown steadily from 14% in 1995 to 85% in 2013 (Zickuhr 2013). However, roughly four out of every ten Blacks, and almost half of the Hispanics or Latinos, reported they did not use the Internet in 2011. In *Digital Differences*, Pew reports almost 80% of adults are now online, with 70% of adults (18+) having a high-speed connection at home (Zickuhr and Smith 2012). However, some populations continue to lag in adoption, including minorities and adults in households with lower incomes. Although 62% of adults in households earning less than $30,000 a year are now online (up from 28% in 2000), only 43% of adults without a high school diploma are online (up from 16% in 2000). Those two population characteristics (low income and low educational attainment), combined with age (being 65 or older), are the strongest predictors for low Internet use.

Why are these adults not online? Cost is certainly part of the reason, and 19% of those surveyed for the Pew *Who's Not Online and Why?* report (Zickuhr 2013) indicated that price (of computers, upkeep, and Internet service) was part of the barrier; however, this was no longer the primary reason as it had been in Pew's 2000 edition of the survey. In the 2013 survey, 34% cited lack of relevant content, 32% cited reasons related to the perception that the Internet is not easy to use or maintain securely, and only 7% cited lack of access or availability. The report concludes that 15% of American adults do not use the Internet at all. Yet at the same time, as of a May 2013 Pew survey, approximately 91% of American

adults have a cell phone, 56% have a smartphone, and 34% have a tablet computer. Unfortunately, even with the increase in smartphone ownership, only 40% of those with less than a high school diploma are accessing the Internet in any way (such as a home computer, outside computer, or mobile device).

Alternatives for Access

With a significant percentage of the adult education eligible population still unable to either access high-speed Internet from the home or via a mobile device, where can they go to participate in online or hybrid learning programs? This section presents existing and potential alternatives state and program directors can consider as possible partners in bridging the access gap.

Public Libraries

Today there are over 16,500 public libraries in the U.S., including branch locations, and they play a significant role in America's Internet connectivity as well as in serving as sites of literacy and English instruction. According to a comprehensive 2010 survey, (Becker, Crandall, Fisher, Kinney, Landry, and Rocha 2010)*,* over 77 million people, or nearly one-third of the U.S. population, ages 14 and older, used a public library computer or wireless network to connect to the Internet in 2009. Of the millions of library patrons, 44% of patrons who live in households living below the poverty line ($22,000 per year for a family of four) visit a public library with the purpose of accessing the Internet. The report also cites that 42% (estimated 32.5 million) of library computer users indicate that education is the reason they are online, and 24% of those users reported taking online courses or working on online assignments.

Library Services in the Digital Age (Zickuhr, Rainie, and Purcell 2013) echoes the library study above, stating that 77% of Americans ages 16 and older say that "free access to computers and the Internet is a 'very important' service of libraries." The report estimates that 91% of this same population indicates that the public libraries are important to their communities, and 76% feel the same way about the importance of libraries to their families. However, even with this level of importance, only 22% of Americans ages 16 and older say they know about the services the libraries provide, 46% say they know a little, and 31% say they know very little or nothing at all.

However, looking at the capacity of libraries to meet the demands, the American Library Association's 2012 report demonstrates that while public computer and Wi-Fi use increased at more than 60% of public libraries, over 65% of those libraries report an insufficient number of public computers and 41.4% report not having enough bandwidth. These are sobering numbers, especially when 62% report that they provide the only free Internet access in their community. Furthermore, 70% of those libraries providing the only free access in the community are in rural areas.

Community Anchor Institutions

Depending on location, Community Anchor Institutions (CAI), may provide members of the community alternative access points. The National Telecommunications and Information Administration (NTIA), part of the U.S. Department of Commerce, defines CAI's as the schools, libraries, medical and healthcare providers, public safety entities, community colleges and other institutions of higher education, and other community support organizations and entities that have high-speed broadband access in a state and/or county. Some CAIs allow public access to the Internet, while others do not. NTIA's "National

Broadband Map" (available at http://broadbandmap.gov/) allows users to "search, analyze and map" broadband availability, and identify the 25 closest CAI's based upon a specific address. According to NTIA's *Exploring the Digital Nation* (2013), over 90% of Americans live in areas where high-speed Internet is available, [but] only seven in ten households used broadband at home by July 2011" (ii).

American Job Centers, formerly known as One-Stop Career Centers, are funded by the U.S. Department of Labor, and are an example of a CAI. They are operated by community colleges, employment service offices, community-based organizations, and government agencies. The Centers provide free Internet access to adults in communities across the nation for services ranging from employment and re-employment assistance to educational opportunities. There are currently 2700 Centers in the United States, including full service offices and satellite branches. Full service centers include resource rooms that house computers and provide free access to the Internet. Many but not all satellite branch Centers also include a resource room, although hours of operation may vary.

Initiatives for Home Internet Expansion

In addition to these physical locations, there are multiple national, state and local initiatives focused on getting Americans online. One in particular, Everyone On (www.everyoneon.org), a partnership between Connect to Compete and the Ad Council, is designed to "help motivate the millions of Americans who do not have the digital literacy skills they need to succeed become connected and take advantage of free digital literacy training in their communities." Connect to Compete is a national non-profit that aims to eliminate the digital divide by making high-speed, low-cost Internet, computers and tablets, and free digital literacy training accessible to all unconnected Americans. Everyone On is a three-year, multimedia, bilingual campaign that targets individuals who live in low socio-economic households who have not been able to afford a computer or Internet access in the past.

OCTAE has entered a resource-sharing agreement with Everyone On to provide pre-qualified status for the lowest cost deal in their locality to enrolled students, teachers, and programs through a unique hub located at www.EveryoneOn.org/adulted. This bulk adoption of Everyone On services allows programs and states to use common messaging to help students take full advantage of the opportunity to get Internet access in their homes while also assisting programs to create hot spots of wireless connectivity in classrooms on a flexible and portable basis. Teachers are encouraged to take advantage of the opportunity as well, thus increasing their confidence with technology. Concurrently, programs that teach digital literacy skills are strongly encouraged to update their contact information in America's Literacy Directory (https://www.literacydirectory.org/), which supplies contacts to the Everyone On Locator Tool that assists Americans locate free digital training in their communities.

Another national initiative working on this challenge is *Connected Nation* (www.connectednation.org) which provides extensive broadband planning services for communities and states, and *ConnectED* an initiative which the Obama Administration hopes will "connect 99% of America's students to the Internet through high-speed broadband and high-speed wireless within 5 years." Across the country, states and municipalities have various broadband initiatives, all designed to bring the Internet to schools, hospitals and other community organizations, as well as residents.

The WOW (Who's Online Where) Index

Increasing the amount of online instructional activity is one of the more efficient ways to reach more adults with educational programming and of increasing adults' engagement with learning, offering unlimited opportunities for practice. However, there are many factors to consider before blanketing an entire state with online or hybrid programs, or choosing to deliver only face-to-face instruction. The WOW (Who's Online Where) Index is designed to help state directors and others look at a number of factors related to a need for adult education programs combined with the level of available Internet access *by county.* The Index takes into account that directors are unable to assume that just because broadband access is *available* in a county, that the households in that county are all online. (It should be emphasized at this point that while the WOW Index takes many variables into account, it is still very much a first iteration. The Office of Career, Technical, and Adult Education (OCTAE) fully expects that the Index will be updated and refined over time, as the office receives feedback and suggestions from users.)

Unfortunately, there aren't any surveys or measurement tools available to determine exactly how many households have broadband access to the Internet in a county, making this the most challenging factor in the Index. Surveys like the U.S. Census Bureau's Current Population Survey (CPS) and those distributed by the Pew Internet & Family Life Project are not large enough to provide county level individual data. For example, the Current Population Survey is administered monthly to approximately 54,000 households and has included an Internet and computer usage section (sponsored by NTIA) since 1997.

Staff at the Pew Research Center and NTIA agree, however, that it is possible to generate a reasonable estimate of the number of households with broadband access by county by looking at two indicators: 1) household income level and 2) adult educational attainment (Brenner and Lee 2013), both of which are collected by the Census Bureau every ten years at the county level. According to the CPS, those households with an income of $25,000 to $50,000 are most likely to have broadband access, and those households earning $25,000 or less are most likely not to have broadband access. In addition, households where the educational attainment of the adults (18 and over) is below a high school diploma are also less likely to have broadband access at home.

The WOW Index considers these two indicators, along with several other elements (see below), and produces a WOW Index Score that will help predict the level of accessibility to the Internet for adults in a given county. The Score correlates with three possible intervention recommendations: Face-to-Face (F), Hybrid (H), or Online (O). These recommendations are described further in the Methodology section.

Another factor to consider when generating an estimate of how deep household broadband Internet penetration is in a county is whether or not the county is identified as rural or urban. Estimates from Pew and the CPS estimates range from 50%-62% of rural households had broadband access at home compared to 70%-74% of households in urban communities. The WOW Index uses the percentages provided by the CPS and adjusts for urbanicity by lowering the rural estimates by the percent difference in urban and rural broadband use at the national level. The rural estimate was lowered by 12% and the

urban estimate remained constant since the national level difference is 12%. The Office of Rural Health Policy (ftp://ftp.hrsa.gov/ruralhealth/eligibility2005.pdf) has compiled a list of counties by state designated as rural.

WOW Index Elements

The WOW Index elements are broken into two categories: *Target Audience* and *Access*. These elements are each given a WOW Index value and then calculated for a WOW Index Score. All Index elements must be converted to percentages and inserted into the WOW Index Worksheet. The final WOW Index Score corresponds with the Intervention Recommendations to help state directors and others determine where to implement and/or expand online or hybrid instructional programming.

Adult Education Eligible Population

A. Percentage of adults without a high school diploma by county currently not being served. The most accurate place to extract estimates of eligible adults by county is from the 2007-2011 American Community Survey 5-Year Estimates through the U.S. Census Bureau American Fact Finder. The number of adults currently enrolled is subtracted from the total to identify the gap in service.

B. Percentage of households earning less than $25,000 annually by county. The most accurate place to extract these estimates by county is from the 2007-2011 American Community Survey 5-Year Estimates through the U.S. Census Bureau American Fact Finder.

Usage and Access

C. Home Internet Usage. This percentage is closely tied to computer ownership in the home. Compared to national figures, the adult education eligible population is roughly 30% less likely to access the Internet from home. However, this figure can be higher or lower when adjusting for urbanicity on individual counties (as done in the Ohio example).

D. Household Broadband Connectivity. Although no surveys collect broadband access data at the county level for each state, by taking the total number of households (by county) and multiplying by the percentage of broadband adoption, a good estimate can be generated. Adjusting for urbanicity strengthens the estimate.

E. Public Libraries and Branches. In counties where household Internet access is limited, knowing the number of public libraries (including branches) in the county is important. These libraries, even those with limited hours, can provide adults with access to participate in online instructional activities. In addition, many libraries house digital literacy and other adult education modules on their computers. Library locations (by county) can be found on each state's public library website.

F. Community Anchor Institutions (CAIs) and American Job Centers. The National Broadband Map (NBM) identifies the 25 CAIs closest to the county seat (http://www.broadbandmap.gov/community-anchor-institutions). Full-Service locations have a resource room where individuals can use the Internet and access educational programs at no charge. Some satellite locations also provide this resource; however, for the WOW Index, only Full-Service locations were identified and considered.

Methodology

The methodology behind the WOW Index is the result of research and conversations related to the adult education population, and the need to extend the reach of adult education programs across the country through the use of technology. Most adult education state directors are familiar with their state's demographics and are aware of the need for more capacity to reach adults not yet enrolled. However, with limited budgets, they need to know how many of these adults are online and where so they can decide where to support more face-to-face instruction and where they should consider online and/or hybrid instruction. The more specific the data, the more likely the decisions will be accurate. In order to deliver a result that is as granular as possible, the WOW Index requires county-level data.

The target audience for the methodology was identified as adults (18+) who have not earned a high school diploma, and adults who live in households where the annual income is less than $25,000. These two data elements not only capture the primary characteristics of the adults who enroll in adult education programs, but combined with age, they are the best predictors of whether or not there is broadband Internet access in the home (another element of the Index). Fortunately, both of these elements are included in the American Community Survey 3-year and 5-year estimates so they are relatively easy to find.

The more challenging piece of the methodology is determining the overall level and type of access this population has to the Internet. To do that, the Index includes four data elements:

1. Eligible adults' Internet usage
2. Eligible households with broadband access
3. Number of public libraries and branches
4. Alternative access options

In addition, the adult education eligible adults' Internet usage and eligible households with broadband access are adjusted for urbanicity, since households in urban communities are more likely to have broadband access than households in rural communities. (Note: The urbanicity was not calculated for the households with annual income below $25,000, because applying the calculation to both elements would be duplicative, since not having a high school diploma already correlates with households earning less than $25,000.)

Each element in the WOW Index was given a value ranging from 5 to 25 points for a maximum total of 100 points (the WOW Index Score). Element values were weighted based on level of need for adult education programming and the likelihood of the target audience to have convenient Internet access. Within each element, categories were also weighted based on importance to the overall element. The final WOW Index Score is the total points (out of 100) that correlate to three general intervention recommendations: 1) increase the number of face-to-face programming options, 2) develop or increase the availability of hybrid, or blended programming options, and 3) develop or increase fully online programming options. The recommendations are not meant to be set in stone. Instead, they are suggested to help state directors make data-driven strategic decisions about the best ways to extend and supplement their programs. The Index should be considered one more tool in the planners' tool

box to operate their programs. As more state directors and others use the Index, percentages and weights may need to be adjusted.

The full list of WOW Index elements, values, points and intervention recommendations can be found in Appendix A. One of the challenges in developing the decision making WOW Index was that there is little empirical data on how to most effectively make investment decisions in adult education relative to the use of limited public dollars for face to face, hybrid, and fully online learning solutions. In addition, there has not been any discussion in the policy or education research literature as to which public data sets might contain the appropriate and relative data. To address these issues, a series of assumptions guides the tool about the type of data that would be most useful, as well as how those data could be used to inform decisions. These assumptions were based on expert opinions and data referenced in relevant trade journals, blogs, and policy papers.

The sample WOW Index Worksheet for Ohio is included with this package, as well as a WOW Index Worksheet (with formulas) that can be used by other states.

Example – Ohio

To demonstrate the usefulness of the WOW Index, one state (Ohio) was selected, and data was collected and applied to the Index. OVAE appreciates that Jeffrey Gove, state director, and his staff provided a wealth of information and data that allowed this example to be prepared. Ohio has already made significant progress toward expanding its distance learning through additional online opportunities. However, like any other state with limited resources, there has not been an in-depth review of who is online and where across the state, making it difficult to determine where best to increase technology-based programs. The spreadsheets and maps accompanying this document provide an example of how a state could use the Index, and how it can visually represent the state's Internet access status with regard to current and future adult education programs. For Ohio, the WOW Index will help the state director's office make data-driven decisions regarding resources for future programming to reach the 1,000,000+ adults still to be served across the state.

Thoughts, Conclusions and Recommendations

This document and the WOW Index are designed to serve as catalysts for further exploration of ways to reach more adult learners and provide them with convenient programming. The increased use of online instruction, whether fully online or hybrid, will allow programs to extend their reach significantly and offer meaningful supplemental practice and digital literacy skills. Online courses and programs provide convenience for adults, but they are only convenient if the adults can access them from home or from a nearby location. The WOW Index provides a way to use data points for deciding how and where to add online programming. As stated earlier, there is no current way to determine an exact number of households that will have broadband access from the home. However, by using the indicators described in the Index, administrators can get a fairly accurate estimate of who is online and where.

The WOW Index is not intended to be the only factor when considering an online approach. Program planners should be familiar with current best practice in digital literacy instruction and incorporate the findings into the development of their online programming. Adult learners will need a range of supports, well-designed user interfaces, and content at the appropriate levels. In addition, planners

must become familiar with what is considered to be quality in online and hybrid learning environments. With this population in particular, interaction, engagement, and tech support will be critical to a successful learning experience. Quality standards such as those described by the Sloan Consortium, the Southern Regional Education Board, and Quality Matters™ can provide guidance in this area (see Reference list).

In addition to using the WOW Index, program planners should consider where they currently fund programs and where they have seen waiting lists. This information may help to reinforce the WOW Index recommended intervention. For example, if a county appears to be ready to engage in online programming, the fact that the county has a waiting list gives leadership a clearer indication of latent interest. In addition, each state should look at longitudinal information that shows the proportion of people served in the state over a given period of time. Are there areas where there is less access to technology? Are there programs with instructors who are champions of online learning? Every state will be different, and in some cases, every county will be different. To help program planners consider possible options for delivering hybrid or online programming, four examples are provided in Appendix B. In addition, Appendix C provides a summary chart listing the possible steps a state director would take (including using the WOW Index) to determine where best to invest valuable financial and personnel resources.

Appendix A: WOW Index Elements (100 pts total) and Intervention Recommendations

The weights and points below were designed as an example and may be adjusted over time or by states and other users in order to get an accurate picture of the counties in their states.

ADULT EDUCATION ELIGIBLE POPULATION

    A. Percentage of adults without high school diploma not currently enrolled (25 pts max)
- <10%- Low: 10
- 10%-20% - Medium: 15
- >20% - High: 25

    B. Percentage of households with income below $25K (15 pts max)
- <15% - Low: 5
- 15%-25% - Medium: 10
- >25% - High: 15

USAGE AND ACCESS

    C. Percentage of target adults Internet usage (based on HS and R/U) (20 pts max)
- a. <33% - Low: 10
- b. 33% to 35% - Medium: 15
- c. >35%+ - High: 20

    D. Percentage of target households with broadband connectivity (based on HS and R/U) (25 pts max)
- a. <7% - Low: 10
- b. 7%-12% - Medium: 15
- c. >12% - High: 25

    E. Number of Public Libraries and Branches as access options (10 pts max)
- a. <5 – Low: 3
- b. 5-12 – Medium: 7
- c. >12 – High: 10

    F. Number of other access options (CAIs and American Job Centers) (5 pts max)
- a. <10 – Low: 1
- b. 10-20 – Medium: 3
- c. >20 – High: 5

INTERVENTION RECOMMENDATIONS

<60=Face2Face: Additional F2F classes or F2F with CBE-coached learning and assessments (F)

61-74=Hybrid: Development or increase in hybrid or blended programs (H)

75-100=Online: Development of online programs or online CBE content and assessments (O)

Appendix B: Examples of Current Technology-Enabled and Online Projects

Ohio's Distance Education Hub – Centralizing Services for Wider Reach

The Ohio Board of Regents' State Adult Basic Literacy Education (ABEL) program is now contracting with the Kent State University's Ohio Literacy Resource Center to function as the new statewide Distance Education Hub. This is intended to help build all programs' capacity to provide distance learning opportunities for students, thus increasing their chances to successfully transition through ABLE to postsecondary education/training and employment. In FY 2014, **all** ABLE programs are required to offer a component of distance education (an exception may need to be made for the corrections facility because of Internet access limitations). The Hub will provide distance education instruction to students referred from local ABLE programs. In addition to increasing options for distance education students the Hub has five primary goals in FY 2014:

1. Increase distance education teacher contact with students.
2. Increase distance education teacher contact with classroom teachers.
3. Improve accountability by increasing data collection and data entered into ABLELink.
4. Improve security and eliminate paper documentation by making student referrals process through ohioable.org
5. Improve outcomes for students, including level completion and GED completion.

The Referring Partner and Distance Education Hub are partners in the referral and teaching/learning process. Each has responsibilities for instruction, data management, and communication. In order to understand the process of distance education, it is highly recommended that at least the program administrator of each Referring Partner (RP) take Distance Education Basics, a self-directed Moodle course available through the professional development system.

The Referring Partner (RP) will:

1. Intake the student and maintain all records, including all required ABLE and local forms.
2. Conduct ABLE Orientation, including initial assessment and goal-setting.
3. Enter the student into ABLELink.
4. Provide initial classroom instruction, if not immediately referring the student for distance instruction.
5. Complete the Student Referral Form to refer the student for distance instruction.
6. Provide supplemental in-class instruction as needed and record all in-class instruction (only) into ABLELink [the Hub will enter all distance hours on behalf of the Referral Partner].
7. Conduct all progress assessments.
8. Keep Distance Education Teacher apprised of any changes, including student achievement, exit, or other areas that may impact the student's instructional plan.

The Hub will:

1. Assign a primary Distance Education Teacher to work with students from each RP.

2. Ensure that the Distance Education Teacher is trained in the use of the approved software and other instructional methods to be used with the RP's students.
3. Receive the Student Referral form and notify the RP's assigned Distance Education Teacher.
4. Communicate with Classroom Teacher, including initial contact and education progress.
5. Provide an orientation to distance education for the student.
6. Regularly communicate with and provide feedback to the student.
7. Provide all distance instruction through approved instructional methods.
8. Keep Classroom Teacher apprised of any changes, including student achievement, exit, or other areas that may impact the student's instructional plan.
9. Recommend progress assessments.
10. Recommend supplemental in-class instruction.
11. Enter all distance education hours into ABLELink weekly on behalf of the RP and provide RP with a report of attendance hours entered.

Corresponding Maps

The Ohio example includes a series of maps and the underlying data in a worksheet that provide visual representations of several of the WOW Index Elements, as well as other interesting data points. The final map represents the WOW Index Scores for each county.

1. Ohio Adult Education Programs. This is the number and location of current adult education programs by county. The National Reporting System (NRS) provides the number of programs offered by each state. The number and location of programs can be slightly misleading because a program may serve the residents of multiple counties.

2. Ohio Adult Education Enrollments. This is the number of adults currently enrolled by county. Knowing the residency of adults enrolled in programs provides a snapshot of how many adults are being served in that county, regardless of where they might be accessing a program (their own county or a surrounding county).

3. Density of Eligible Adults Not Enrolled (by county). This number is the difference between the total number of adults without a high school diploma minus the number of adults being served by current programs. Educational attainment estimates can be found on the American Fact Finder website.

4. Density of Eligible Households with Broadband (by county). This is an estimate of the number of households earning less than $25,000 annually that are likely to have home broadband access.

5. Public Libraries and Branches (by county). Libraries – even those with limited hours – can provide adults with access they need to participate in online learning activities.

6. Density of Broadband and Libraries. This overlay of Maps 4 and 5 provides a visual representation of the level of access potential adult learners will have in each county.

7. WOW Index Score Results. This map provides a look at which counties would be most suited to expanding face-to-face learning opportunities, which ones would likely see success with hybrid programming, and which ones might be best prepared to receive fully online programs.

Ohio ABE Programs - 2013

This map shows the ABE programs in each county. Although programs may be offered in one county, they may also serve adults in surrounding counties.

Legend:
- 0
- 1
- 2
- 3
- 4

Ohio Example - Map1

Source: Ohio ABLE Office

Ohio ABE Enrollments
FY 2013
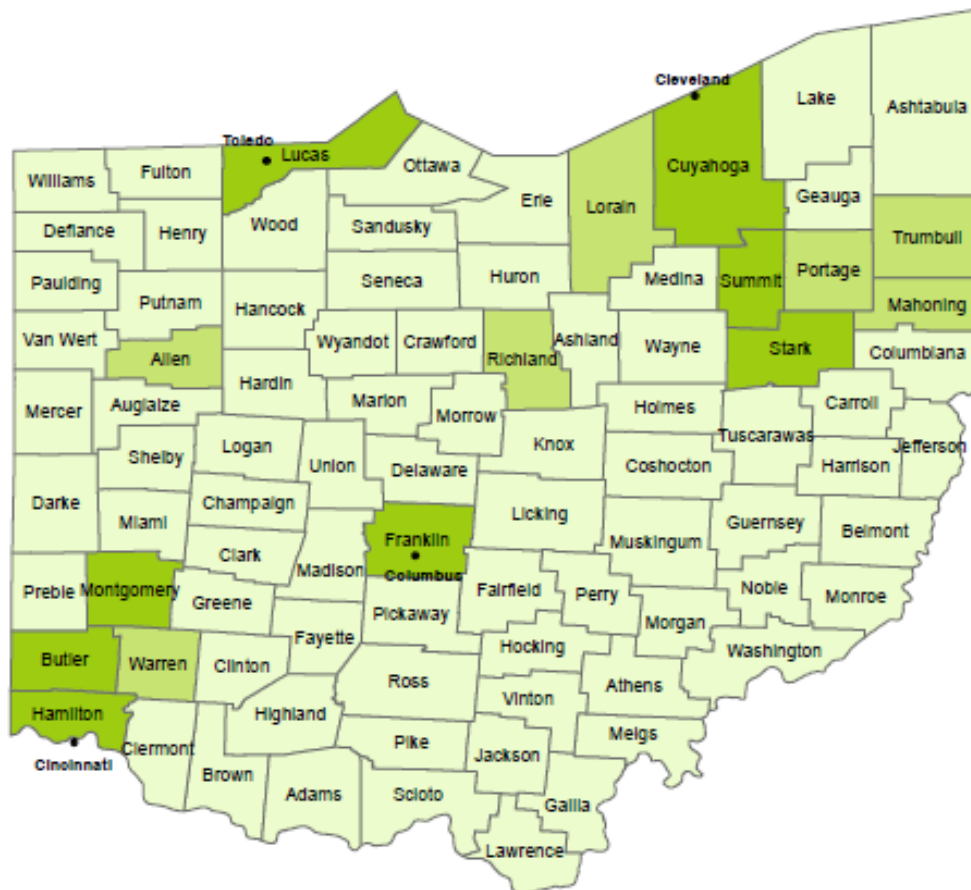
This map provides a snapshot of how many adults are enrolled in ABE programs in each county, regardless of where they might be enrolled (their own county or a surrounding county).

<500
501 - 1000
>1000
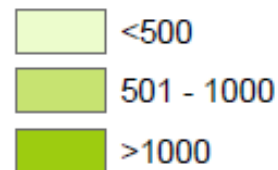
Ohio Example - Map 2

Source: Ohio ABLE Office

Density of Eligible Adults Not Enrolled
(by county)

This map shows the number of adults without a high school diploma who not being served by current programs.

1 Dot = 500

adults still to serve w/o HS
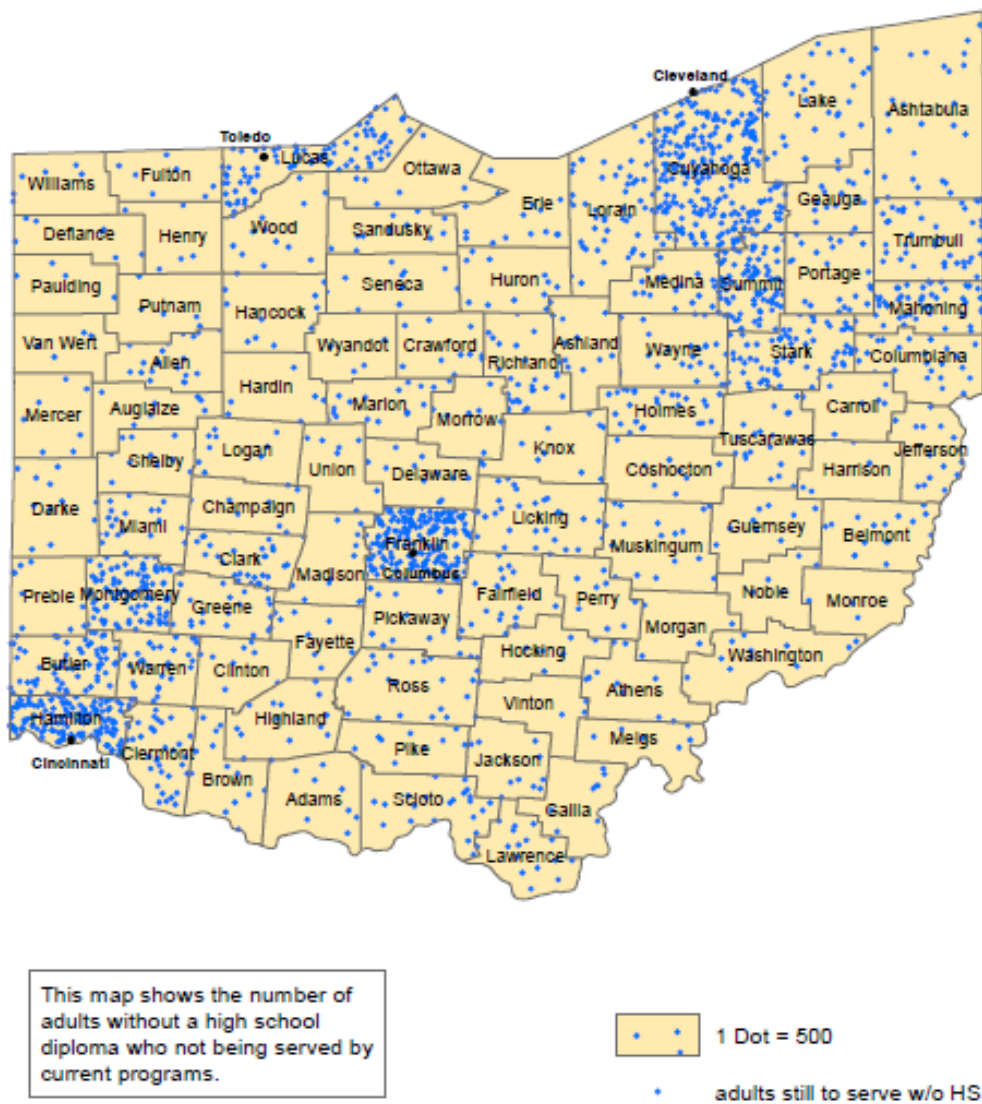
Ohio Example - Map 3

Source: 2007-2011 Amercian Community Survey, 5 yr estimates. Table B15001

Density of Target Population Households
with Broadband - 2011
(by county)

This map provides an estimate of the number of households with annual income less than $25k that likely have home broadband access.

1 Dot = 300

HH Broadband (CPS)

Ohio Example - Map 4

Source: Exploring the Digital Divide
(U.S. Department of Commerce)

Public Libraries and Branches
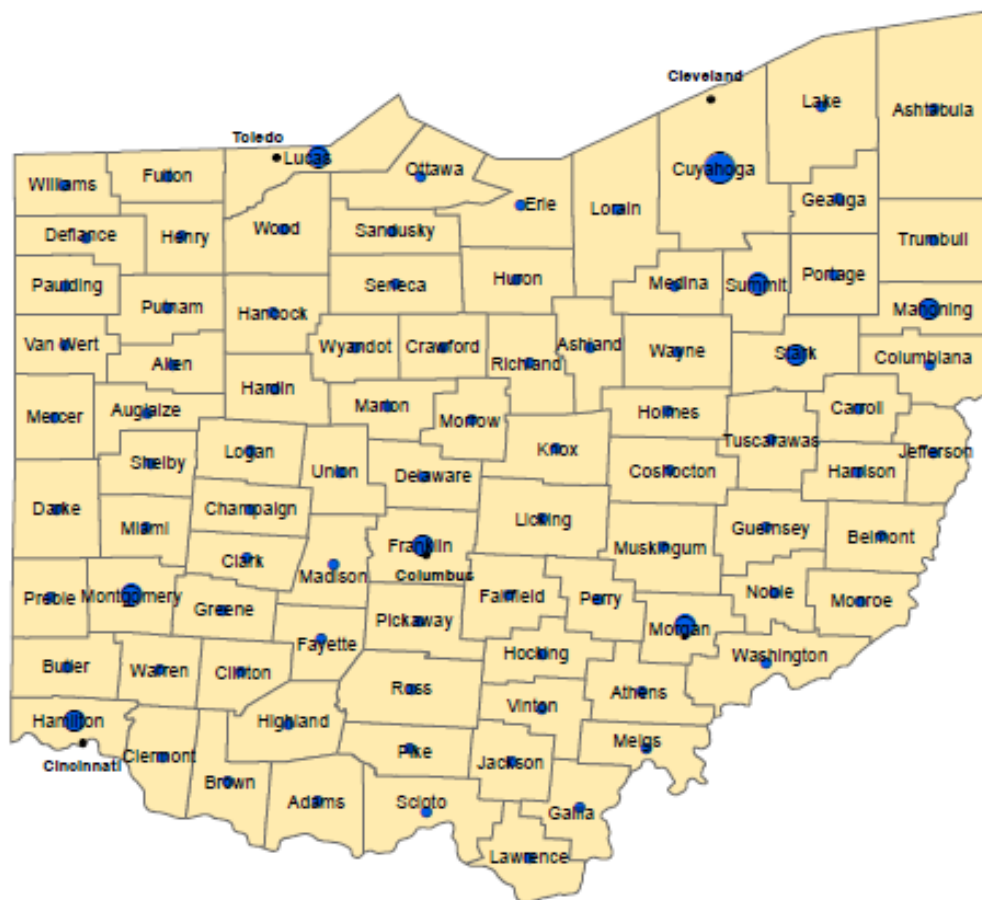
This map provides a snapshot of the number of public libraries and branches where adults could access the Internet to participate in online instructional activities.

Legend:
- 1 - 15
- 16 - 41
- 42 - 72
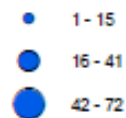
Ohio Example - Map 5

Source: State Library of Ohio

HH with Broadband plus Libraries/Branches (by county)

Legend:
- 1 - 15
- 16 - 41
- 42 - 72
- 1 Dot = 300
- HH Broadband (CPS)

This overlay of Maps 4 and 5 provides a visual representation of the level of access potential adult learners will have in each county.
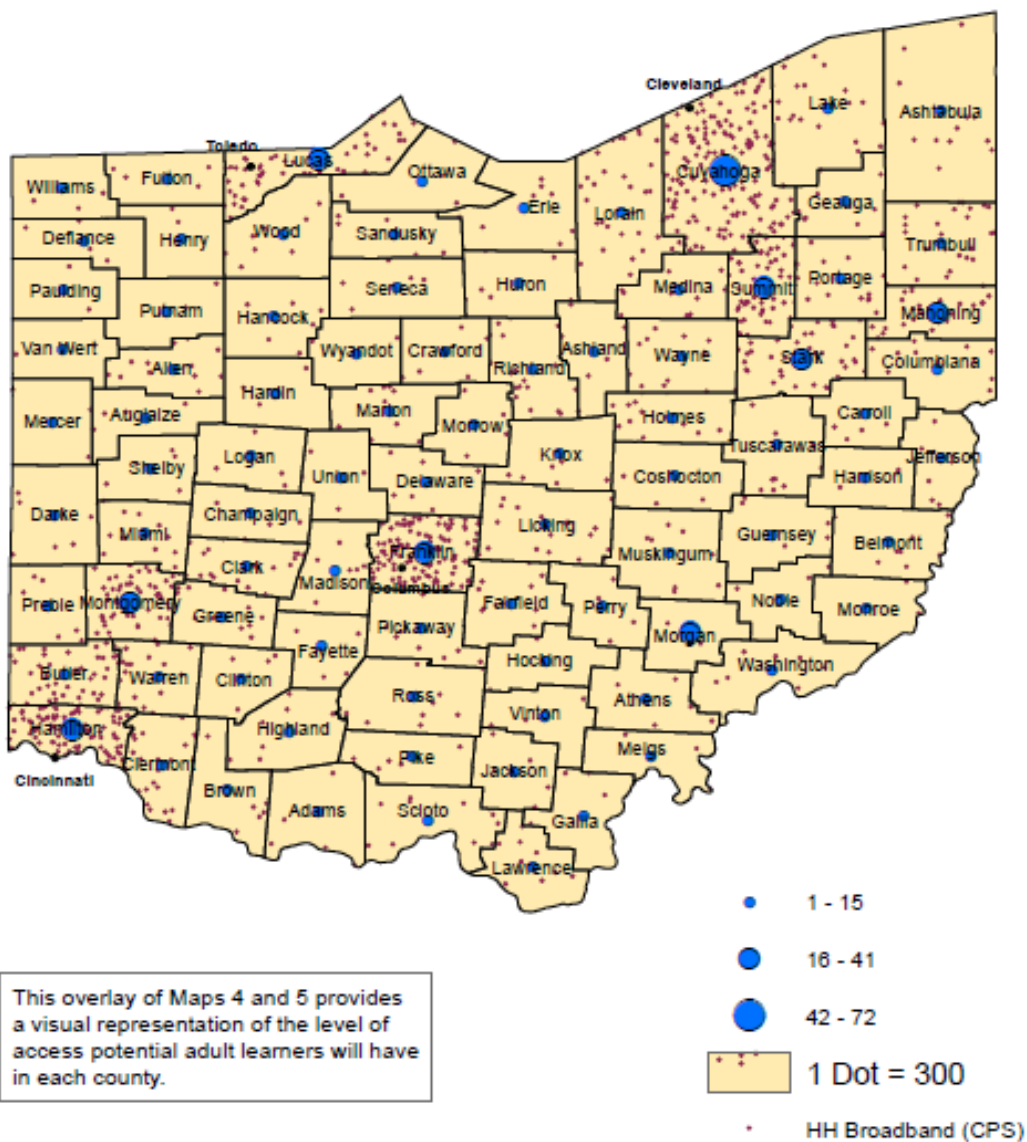
Ohio Example - Map 6

WOW Index Interventions

This map provides a look at which counties would be most suited to expanding face-to-face learning opportunities, which ones would likely see success with hybrid programming, and which ones might be best prepared to receive fully online programs.

Legend:
- Face-to-Face (blue)
- Hybrid (green)
- Online (tan)

Ohio Example - Map 7

Corresponding Table of WOW Index Preliminary Calculations – Ohio

COUNTY	Total Households	Adult Pop (18+)	Total Adult Pop (18+) w/o HS (number)	Total Adult Pop (18+) w/o HS (percentage)	Adults 18+ w/o HS Internet Usage (number)*	Adults 18+ w/o HS Internet Usage (percentage)*	Adults 18+ w/o HS Households with Broadband Connectivity (number)*	Adults 18+ w/o HS Households with Broadband Connectivity (percentage)*	HH income <$25K (number)	Household Income <$25K (percentage)	Public Libraries & Branches	CAIs and Full-Service American Job Centers
Adams	10905	21415	4715	22.02%	1535	32.56%	1419	13.01%	4227	38.76%	5	17
Allen	40703	80886	10476	12.95%	3876	37.00%	3667	9.01%	11837	29.08%	8	22
Ashland	20125	40463	5678	14.03%	1849	32.56%	1709	8.49%	5149	25.59%	2	17
Ashtabula	38771	77490	12208	15.75%	3975	32.56%	3675	9.48%	11937	30.79%	9	23
Athens	22496	54508	4988	9.15%	1624	32.56%	1501	6.67%	9258	41.15%	7	22
Auglaize	18297	34283	3488	10.17%	1136	32.56%	1050	5.74%	3233	17.67%	7	20
Belmont	28747	56545	8109	14.34%	3000	37.00%	2838	9.87%	8592	29.89%	9	21
Brown	16112	33808	6405	18.95%	2370	37.00%	2242	13.91%	3989	24.76%	8	18
Butler	135104	275526	33916	12.31%	12549	37.00%	11871	8.79%	28321	20.96%	7	25
Carroll	11485	22199	3665	16.51%	1356	37.00%	1283	11.17%	2632	22.92%	2	18
Champaign	15278	30057	4006	13.33%	1304	32.56%	1206	7.89%	3610	23.63%	4	19
Clark	54771	105690	15928	15.07%	5893	37.00%	5575	10.18%	15120	27.61%	6	22
Clermont	73333	146773	18661	12.71%	6905	37.00%	6531	8.91%	12812	17.47%	11	19
Clinton	16190	31778	4034	12.69%	1313	32.56%	1214	7.50%	4172	25.77%	4	18
Columbiana	42235	84257	12330	14.63%	4015	32.56%	3711	8.79%	12134	28.73%	7	20
Coshocton	14375	28022	4334	15.47%	1411	32.56%	1305	9.08%	4234	29.45%	2	19
Crawford	17905	33651	5195	15.44%	1691	32.56%	1564	8.73%	4818	26.91%	4	19
Cuyahoga	537203	989860	139121	14.05%	51475	37.00%	48692	9.06%	158160	29.44%	72	22
Darke	20700	39746	5794	14.58%	1887	32.56%	1744	8.43%	5276	25.49%	4	20
Defiance	15183	29434	3728	12.67%	1214	32.56%	1122	7.39%	3442	22.67%	3	24
Delaware	62618	123710	5552	4.49%	2054	37.00%	1943	3.10%	6397	10.22%	7	19
Erie	31642	59934	7118	11.88%	2634	37.00%	2491	7.87%	7882	24.91%	7	23
Fairfield	54388	107747	10366	9.62%	3835	37.00%	3628	6.67%	10402	19.13%	7	23
Fayette	11543	21867	4318	19.75%	1406	32.56%	1300	11.26%	3324	28.80%	2	20

COUNTY	Total Households	Adult Pop (18+)	Total Adult Pop (18+) w/o HS (number)	Total Adult Pop (18+) w/o HS (percentage)	Adults 18+ w/o HS Internet Usage (number)*	Adults 18+ w/o HS Internet Usage (percentage)*	Adults 18+ w/o HS Households with Broadband Connectivity (number)*	Adults 18+ w/o HS Households with Broadband Connectivity (percentage)*	HH income <$25K (number)	Household Income <$25K (percentage)	Public Libraries & Branches	CAIs and Full-Service American Job Centers
Franklin	460497	884872	97969	11.07%	36249	37.00%	34289	7.45%	113236	24.59%	33	15
Fulton	16332	31689	3757	11.86%	1390	37.00%	1315	8.05%	3196	19.57%	6	22
Gallia	12009	23582	4342	18.41%	1414	32.56%	1307	10.88%	4469	37.21%	1	24
Geauga	34447	69152	7928	11.46%	2933	37.00%	2775	8.06%	5303	15.39%	8	18
Greene	62558	126440	10019	7.92%	3707	37.00%	3507	5.61%	12707	20.31%	7	23
Guernsey	15913	30472	5016	16.46%	1633	32.56%	1510	9.49%	5233	32.89%	3	17
Hamilton	325766	612734	76883	12.55%	28447	37.00%	26909	8.26%	88120	27.05%	41	18
Hancock	30425	57154	5514	9.65%	1795	32.56%	1660	5.46%	7224	23.74%	3	25
Hardin	11692	24498	3026	12.35%	985	32.56%	911	7.79%	3790	32.42%	7	17
Harrison	6298	12392	1831	14.78%	596	32.56%	551	8.75%	2225	35.33%	4	19
Henry	11110	21121	2364	11.19%	770	32.56%	712	6.40%	2495	22.46%	8	22
Highland	16841	32497	6528	20.09%	2126	32.56%	1965	11.67%	5082	30.18%	4	21
Hocking	11491	22375	3216	14.37%	1047	32.56%	968	8.42%	3298	28.70%	2	16
Holmes	12261	27855	12862	46.17%	4188	32.56%	3871	31.58%	2710	22.10%	5	22
Huron	22684	43959	5998	13.64%	1953	32.56%	1805	7.96%	5339	23.54%	8	20
Jackson	13252	25070	5221	20.83%	1700	32.56%	1572	11.86%	4580	34.56%	3	22
Jefferson	28741	55655	7004	12.58%	2591	37.00%	2451	8.53%	9145	31.82%	7	22
Knox	22495	46220	5596	12.11%	1822	32.56%	1684	7.49%	5290	23.52%	5	24
Lake	94347	179015	17288	9.66%	6397	37.00%	6051	6.41%	17541	18.59%	14	23
Lawrence	24479	47801	8224	17.20%	3043	37.00%	2878	11.76%	7713	31.51%	5	20
Licking	63314	125367	14209	11.33%	5257	37.00%	4973	7.85%	13448	21.24%	10	22
Logan	18095	34239	4713	13.77%	1535	32.56%	1419	7.84%	4480	24.76%	9	22
Lorain	115534	229278	27800	12.13%	10286	37.00%	9730	8.42%	25822	22.35%	15	21
Lucas	178777	335678	44886	13.37%	16608	37.00%	15710	8.79%	55127	30.84%	19	21
Madison	14791	33628	5472	16.27%	2025	37.00%	1915	12.95%	3285	22.21%	4	23

COUNTY	Total Households	Adult Pop (18+)	Total Adult Pop (18+) w/o HS (number)	Total Adult Pop (18+) w/o HS (percentage)	Adults 18+ w/o HS Internet Usage (number)*	Adults 18+ w/o HS Internet Usage (percentage)*	Adults 18+ w/o HS Households with Broadband Connectivity (number)*	Adults 18+ w/o HS Households with Broadband Connectivity (percentage)*	HH income <$25K (number)	Household Income <$25K (percentage)	Public Libraries & Branches	CAIs and Full-Service American Job Centers
Mahoning	98749	187485	23936	12.77%	8856	37.00%	8378	8.48%	31033	31.43%	16	24
Marion	24851	51772	8772	16.94%	2856	32.56%	2640	10.62%	7228	29.09%	4	24
Medina	64813	128591	9538	7.42%	3529	37.00%	3338	5.15%	9476	14.62%	9	22
Meigs	9644	18356	3093	16.85%	1007	32.56%	931	9.65%	3699	38.36%	4	14
Mercer	15689	30041	3435	11.43%	1118	32.56%	1034	6.59%	3389	21.60%	7	16
Miami	41364	77738	10115	13.01%	3743	37.00%	3540	8.56%	9177	22.19%	8	18
Monroe	6167	11495	1605	13.96%	523	32.56%	483	7.83%	1962	31.81%	1	17
Montgomery	223546	411874	50031	12.15%	18511	37.00%	17511	7.83%	61354	27.45%	26	25
Morgan	6252	11534	1961	17.00%	639	32.56%	590	9.44%	2090	33.43%	20	19
Morrow	13084	25834	3713	14.37%	1374	37.00%	1300	9.93%	2972	22.71%	4	17
Muskingum	34262	65423	8813	13.47%	2870	32.56%	2653	7.74%	10802	31.53%	6	21
Noble	4771	11848	2785	23.51%	907	32.56%	838	17.57%	1480	31.02%	1	18
Ottawa	18009	32833	3396	10.34%	1257	37.00%	1189	6.60%	3815	21.18%	5	19
Paulding	7571	14676	2160	14.72%	703	32.56%	650	8.59%	2031	26.83%	4	21
Perry	13762	26627	4417	16.59%	1438	32.56%	1330	9.66%	3951	28.71%	8	22
Pickaway	19284	42541	7411	17.42%	2742	37.00%	2594	13.45%	4059	21.05%	2	22
Pike	10816	21589	4777	22.13%	1555	32.56%	1438	13.29%	3701	34.22%	4	24
Portage	61746	127741	11759	9.21%	4351	37.00%	4116	6.67%	14669	23.76%	9	18
Preble	16321	32032	4742	14.80%	1755	37.00%	1660	10.17%	3612	22.13%	10	18
Putnam	12936	25299	2373	9.38%	773	32.56%	714	5.52%	2103	16.26%	8	17
Richland	48593	96456	15611	16.18%	5776	37.00%	5464	11.24%	12656	26.04%	10	17
Ross	28158	60479	9965	16.48%	3245	32.56%	2999	10.65%	7637	27.12%	7	23
Sandusky	24031	46076	5996	13.01%	1952	32.56%	1805	7.51%	5536	23.04%	5	21
Scioto	29788	61409	12006	19.55%	3909	32.56%	3614	12.13%	11575	38.86%	6	22
Seneca	22026	43377	5240	12.08%	1706	32.56%	1577	7.16%	5711	25.93%	5	22

COUNTY	Total Households	Adult Pop (18+)	Total Adult Pop (18+) w/o HS (number)	Total Adult Pop (18+) w/o HS (percentage)	Adults 18+ w/o HS Internet Usage (number)*	Adults 18+ w/o HS Internet Usage (percentage)*	Adults 18+ w/o HS Households with Broadband Connectivity (number)*	Adults 18+ w/o HS Households with Broadband Connectivity (percentage)*	HH income <$25K (number)	Household Income <$25K (percentage)	Public Libraries & Branches	CAIs and Full-Service American Job Centers
Shelby	18507	35921	5028	14.00%	1637	32.56%	1513	8.18%	4073	22.01%	6	23
Stark	150072	289600	34668	11.97%	12827	37.00%	12134	8.09%	39632	26.41%	20	22
Summit	221498	418206	44614	10.67%	16507	37.00%	15615	7.05%	55563	25.09%	27	21
Trumbull	86746	163680	22756	13.90%	8420	37.00%	7965	9.18%	25091	28.92%	13	26
Tuscarawas	36262	70618	10889	15.42%	3545	32.56%	3278	9.04%	10099	27.85%	10	21
Union	17795	38050	3390	8.91%	1254	37.00%	1187	6.67%	2590	14.55%	3	25
Van Wert	11381	21580	2198	10.19%	716	32.56%	662	5.81%	2613	22.96%	6	20
Vinton	5305	10100	2495	24.70%	812	32.56%	751	14.16%	1784	33.63%	1	18
Warren	75283	154218	14952	9.70%	5532	37.00%	5233	6.95%	9871	13.11%	6	15
Washington	25184	48837	5852	11.98%	2165	37.00%	2048	8.13%	6985	27.74%	6	22
Wayne	42485	85375	13331	15.61%	4341	32.56%	4013	9.44%	9307	21.91%	7	17
Williams	15139	28723	3299	11.49%	1074	32.56%	993	6.56%	3771	24.91%	8	20
Wood	48680	98213	6565	6.68%	2429	37.00%	2298	4.72%	11146	22.90%	11	21
Wyandot	9179	17114	2304	13.46%	750	32.56%	694	7.56%	2018	21.98%	3	19
* Adjusted for urbanicity												

Table of WOW Index Preliminary Calculations – Ohio, How to Read this Chart

How to Read this Worksheet

Several assumptions were made in order to develop appropriate formulas for this Index. Future users may need to make adjustments to percentages based on their own state demographics. Some of the values may not need to be calculated here before using them in the actual WOW Index. The purpose of including all of them here is to help the reader understand where the final calculations originated.

Total Households: Total number of households in each county. Data can be found on the U.S. Census American FactFinder site (http://factfinder2.census.gov/

Adult Population (18+): Total number of adults over 18 in each county. Data can be found on the U.S. Census American FactFinder site.

Total adult pop w/o HS (number): Total number of adults in each county who do not have a high school diploma. Data can be found on the U.S. Census American FactFinder site.

Total adult pop w/o HS (percentage): Adult population w/o a high school diploma divided by the total adult population. This is a necessary calculation because the WOW Index requires percentages.

Adults w/o HS - Internet Usage (numbers): Estimated number of adults without a high school diploma who use the Internet. The estimate is calculated as the number of adults without a diploma multiplied by 37% (the national percentage of adults without a diploma who use the Internet), which is then adjusted for urbanicity by multiplying it by 12% (the estimated difference between rural and urban households with that use the Internet).

Adults w/o HS - Internet Usage (percentage): Estimated percentage of adults without a high school diploma who use the Internet. It is calculated by dividing the number of adults without a high school diploma who use the Internet by the total adult population without a high school diploma. This is a necessary calculation because the WOW Index requires percentages.

Adults w/o HS Households with Broadband Connectivity (numbers): Estimated number of adults without a high school diploma in households with broadband connectivity. The estimate is calculated as the number of adults without a diploma multiplied by 35% (the national percentage of adults without diploma who have broadband connectivity at home), which is then adjusted for urbanicity by multiplying it by 14% (the estimated difference between rural and urban households with broadband service).

Adults w/o HS Households with Broadband Connectivity (percentage): Estimated percentage of adults without a high school diploma in households with broadband connectivity. It is calculated by dividing the number of adults without a high school diploma who have broadband connectivity into the total number of households. This is a necessary calculation because the WOW Index requires percentages.

Household Income <$25k (numbers): Total number of households earning less than $25k annually. Data can be found on the U.S. Census American FactFinder site.

Household Income <25k (percentage): Total percentage of households earning less than $25k annually divided by the total number of households. This is a necessary calculation because the WOW Index requires percentages.

Public Libraries and Branches: Total number of public libraries and branches. This data can be found at the state library websites.

CAIs and Full Service American Job Centers: Total number of Community Anchor Institutions within 25 miles of county seat plus total number of full service American Job Centers for Internet access. CAIs may be found at http://www.broadbandmap.gov on the CAI map. American Job Centers can be found at http://jobcenter.usa.gov.

New York State Office for New Americans – ESOL Model

The New York State Office for New Americans (ONA) has created an infrastructure to help newcomers meet the requirements being discussed as part of the anticipated federal comprehensive immigration reform legislation. This support will help meet critical needs and assist newcomers to fully embrace the opportunities provided as they pursue U.S. citizenship and maximize their full potential.

The cornerstone of this integration effort is a network of 27 neighborhood-based ONA Opportunity Centers located throughout New York within existing culturally competent, language-accessible community-based organizations. The $6 million ONA Opportunity Center project helps New Americans learn English, prepares them for the U.S. citizenship exam, helps them start and grow businesses and helps eligible young people apply for Deferred Action for Childhood Arrivals (DACA). Each ONA Opportunity Center combines trained professionals, community volunteers and technology to help newcomers. Neighbors volunteer their time to help their new neighbors become part of the community.

The ONA model for English for Speakers of Other Languages (ESOL) training blends the use of trained teachers, community volunteers, and in-class use of a computer or tablet device for access to the free ESOL learning software, USA Learns (www.usalearns.org). Volunteers not only help clients navigate the USA Learns site, they also engage clients in conversations related to the content of each USA Learns lesson. This conversation/practice portion of each lesson can be conducted one-on-one, or in small groups. A staff supervisor or certified teacher may be in the classroom to observe or provide guidance to the tutor/client during these sessions. It is believed that a cumulative 200 hours of USA Learns and conversation practice should produce demonstrable advancement. Each of the 27 ONA Opportunity Centers provides at least 200 hours of ESOL instruction to more than 200 Limited English Proficiency clients per year, thereby dramatically expanding new Americans' access to English language instruction in New York.

Student assessments and post-testing should be accomplished with the acceptable standard assessment instruments. These are: the Test of Adult Basic Education (TABE), version 9-10; the BEST Plus (computer or print-based); and/or the BEST Literacy. Using the teacher + USA Learns + volunteer model, the student will complete an additional USA Learns intake exam to assess where in the program the student will begin. At the end of each cycle, the students are given a post-test using the acceptable standard assessment instruments.

Arizona's Flipped Classroom Project

In 2011, the Arizona Department of Education, Adult Education Services (ADE/AES) launched a new program that would give selected adult education providers "an opportunity to transform, on a small scale, how adult education is delivered to learners." Called the *Transforming Education through Technology Pilot*, three counties were selected to pilot a "flipped classroom" model over the next two years. The program's goals are to 1) build capacity, 2) accelerate learning, and 3) foster independent learning. There were several anticipated outcomes, including capture of effective strategies for large-scale replication.

The pilot program included the use of PLATO learning software for instruction. Students were expected to work online with PLATO approximately 10 hours per week, and meet once a week face-to-face where teachers supported the skill development learned on PLATO. Teachers did not lecture, but instead focused on helping students fine-tune their skills and follow up on any issues the students were having. For this pilot, the state gave each program $50,000, most of which was used to purchase laptops and tablets that were loaned to the students (note that out of 120 computers almost all were returned). The biggest challenge was the shift in culture for the teachers. They have a saying for this program: "You're not the tour guide. You're the travel agent."

Arizona currently has 19,000 students in their ABE/ASE/ESL programs. As a result of the pilot project, they are starting to roll out the program across the state this fall. Their goal is to add 8,000 more students this year.

Learner Web – Technology-Based Learning Plans

Learner Web (LW) is a self-access web-based platform that allows shared, customized Learning Plans to be used in computer labs operated by an array of institutions (e.g., public libraries, K-12 schools, community colleges, four-year colleges, public housing agencies, workforce centers, community adult education and literacy programs, workforce centers, and other community based organizations). The use of Learner Web varies widely as organizations implement this tool based around their students' goals. It is designed to give learners a self-directed learning experience. Program staff and volunteers can coordinate and support learners in person as well as through roles assigned in the system for monitoring student work and providing feedback. The LW system allows learners to track progress toward their goals while also generating an extensive amount of user data that can be disaggregated and analyzed by multiple factors such as income, race/ethnicity, ESOL, location, and others.

Learner Web is an outgrowth of the ten-year Longitudinal Study of Adult Learning (LSAL) carried out by Drs. Stephen Reder and Clare Strawn, which followed a random sample of about 1,000 Portland-area high school dropouts. Findings indicated that individuals often have educational or occupational goals, but lack realistic plans to reach them. In addition, adult education, social services, and occupational preparation are often poorly coordinated and are not wrapped around the individual. Learner Web was developed in response to these identified needs. Implementation has often involved the creation of a "blended" learning environment that offer support to individuals using both face-to-face and online resources in order to plan and structure a path leading to identified goals.

Learners access the LW through individual accounts that connect them to localized and customized Learning Plans. Learning plans organize, scaffold and sequence resources and instruction. They are step-by-step pathways that learners follow to reach specific goals. Each step connects the learner to online resources and local community-based support. Learning Plan content can be shared with other users who can then customize the content to include examples and resources that are relevant to local learners. For example, when learning how to use mapping programs online, the illustrations come from the learner's city. Learning Plans can also be customized by language, location, interest, educational goals, reading level, age or nearly any other learner characteristics.

Learning Plans utilize existing resources in a principled way, drawing together high quality resources that are shared with other users and further customized to meet specific needs of learners in local areas. This approach to instructional design allows content to be dynamic, not static like so many online systems. Content can be developed and shared collaboratively while giving educators and curriculum developers the power to create new Learning Plans and customize existing content for their learners.

An important hallmark of the Learner Web model is its combination of self-paced computer-based learning blended with the face-to-face support of a tutor, lab instructor, or assistant. In the case of a Department of Commerce Broadband Technology Opportunities Program (BTOP) digital literacy project, tutor facilitation helped overcome the challenges of working with new and inexperienced computer users in a self-paced environment. Face-to-face tutors were trained to offer support in tandem with Learning Plans that were designed to support adults' learning digital literacy skills. This blended model of digital literacy acquisition is currently under study through a grant from the Institute for Museum and Library Services (IMLS). Preliminary findings suggest that tutors appear to offer learners support at

strategic points in time: when choosing a learning path, navigating that path, and applying what they have learned to real-world situations. Having access to a patient, caring, and knowledgeable tutor appears to be beneficial. In several cases, learners forged a personal connection with tutors who helped them overcome their fears by offering personalized praise and encouragement. The positive learning environment that is created through tutor-learner interaction appears to support learners' overall feeling of accomplishment and promotes perseverance in the learning process.

A Learner Web Example: Minnesota

Led by the Minnesota Literacy Council, a number of partners in Minnesota are using Learner Web to help Adult Basic Education students prepare for enrollment in community colleges for career-oriented instruction. There are several "base camp*" Learning Plans that are shared between the partners with content on introducing the learner to career paths, career awareness, career exploration, and ways to be successful once employed. Career and region specific information is included in these Learning Plans that partners can further customize to a specific region and includes information on each career, education or certification requirements, employment settings, and average salary in the region. These Learning Plans are currently being used in workforce centers, community colleges, public libraries, social service agencies and criminal justice facilities. To fulfill a mutual goal, an entity that serves learners partners with an organization that has a computer lab available for learners to use. Next, community tutors are recruited and trained. Then, a set of Learning Plans is made available.

Within this collaboration, tutors scaffold access to technology. They help learners "learn to click" before asking them to "click to learn." Through this sort of collaboration, low-skilled adults are developing the ability to send emails, fill out online forms, access information online, and engage in social networking with the aid of tutor facilitation.

* The "base camp" of a mountain is an area used for exploring, reconnaissance, or beginning a mountain climb.

Appendix C: Summary Checklist

As program planners consider where to invest resources for increased program access, the following checklist may be helpful. It incorporates many data points that should be considered (each state may have more or less) as well as the use of the WOW Index tool. The checklist is not in any specific order.

- ✓ Look and record a longitudinal history of where you have served students in your state.
- ✓ Note the areas (counties) in your state that have waiting lists for programs.
- ✓ Determine the gap between the number of students you currently serve and the number still to be served.
- ✓ Use the WOW Index to determine the number of students who likely have broadband access at home or at another convenient location by county.
- ✓ Take an inventory of your current partnerships, including funders, program locations and current or possible Internet access points.
- ✓ Consider a Learning Management System state-wide license for online or hybrid program delivery, or research the possibility of "tagging on" to an existing license at a community college or university.
- ✓ Use WOW Index data to increase funding with current partners or to attract new partners.
- ✓ Use the WOW Index data to establish new partnerships for program and/or Internet access locations, such as universities and community colleges, K-12 schools and other Community Anchor Institutions.
- ✓ Develop and foster public library partners (including branches), including reviewing adult literacy programming on library computers and working with volunteers to assist adult learners.
- ✓ Develop and deliver training for ABE instructors for hybrid and online program delivery.
- ✓ Determine logistics for hybrid and/or online program delivery, including how to handle online registration and technical assistance for both students and instructors.
- ✓ Acquire or license learner readiness content for online delivery, including digital literacy.
- ✓ Develop communication protocols for new hybrid and/or online program delivery, including messaging, recruitment and marketing.

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